AMENDMENT TO THE CLAIMS

IN THE CLAIMS:

Claim 1 (currently amended):

A multi-imager camera operable under extremes of illuminations from high ambient lighting conditions to low ambient lighting conditions without the need for multiple optical paths, comprising:

a. a single primary lens system for directing a beam;

b. a beam-splitting mirror adapted for receiving and distributing the beam directed by the single lens;

c. the beam-splitting mirror including a surface for dual-path diverting capability, wherein a first portion of the directed beam is diverted in one direction and a second portion of the directed beam is diverted in a second direction;

d. the surface of the beam-splitting mirror is entirely partially-reflective and entirely partially-transmissive for creating different intensities of the beam;

[[d.]] e. a first image sensor for receiving the first portion of the directed beam; and

[[e.]] f. a second image sensor for receiving the second portion of the directed beam.

Claim 2 (original):

The camera of claim 1, further comprising an image intensifier associated with one of the sensors for intensifying the image under low ambient lighting conditions.

Claim 3 (original):

The camera of claim 1, wherein the first diverted beam is a high ambient lighting beam and the second diverted beam is a low ambient lighting beam.

Claim 4 (original):

The camera of claim 1, wherein each image sensor is a digital image device.

Claim 5 (original):

The camera of claim 1, wherein at least one image sensor is a digital image device.

Claim 6 (original):

The camera of claim 1, further including a singled data bus for transmitting the data collected and processed by the image sensors and further including selection means for enabling and disabling alternative of the sensors in order to assure only one image sensor is transmitting data on the bus at any time.

Claim 7 (original):

The camera of claim 6, wherein each image sensor includes an iris and further including a controller for selectively activating and deactivating each iris.

Claim 8 (original):

The camera of claim 6, wherein each image sensor includes an iris and further including a controller for increasing the dynamic range of each sensor through selective iris control.

Claim 9 (original):

The camera of claim 7, wherein the iris controller comprises an iris driver and an iris actuator.

Claim 10 (original):

The camera of claim 8, wherein the iris controller comprises an iris driver and an iris actuator.

Claim 11 (original):

The camera of claim 1, wherein the first sensor is a color sensor and wherein the second sensor is a monochrome sensor.

Claim 12 (original):

The camera of claim 11, further including an image intensifier positioned between the mirror and the monochrome sensor.

Claim 13 (original):

The camera of claim 12, further including a relay lens positioned between the image intensifier and the monochrome sensor.

Claim 14 (currently amended):

~~The camera of claim 13, further including~~ A multi-imager camera operable under extremes of illuminations from high ambient lighting conditions to low ambient lighting conditions without the need for multiple optical paths, comprising:

a. a single primary lens system for directing a beam;

b. a beam-splitting mirror adapted for receiving and distributing the beam directed by the single lens;

c. the beam-splitting mirror including a dual-path diverting capability, wherein a first portion of the directed beam is diverted in one direction and a second portion of the directed beam is diverted in a second direction;

d. a color sensor for receiving the first portion of the directed beam;

e. a monochrome sensor for receiving the second portion of the directed beam;

f. an image intensifier positioned between the beam-splitting mirror and the monochrome sensor;

g. a relay lens positioned between the image intensifier and the monochrome sensor; and

h. an iris controller associated with the relay lens.

Claim 15 (original):

The camera of claim 14, further including an iris controller associated with the single primary lens.

Claim 16 (original):

The camera of claim 15, wherein each iris controller comprises an iris driver and an iris actuator.

Claim 17 (original):

The camera of claim 1, wherein the single primary lens system comprises a plurality of lens components movable relative to one another to permit zoom capability.

Claim 18 (original):

The camera of claim 6, further including a processor for controlling the scanning of the image of the digital sensor and producing an output signal.

Claim 19 (original):

The camera of claim 18, further including an angular position management system for detecting and controlling the angular position of the system.

Claim 20 (original):

The camera of claim 19, the angular position management system comprising a pair of orthogonal gyroscopic accelerometers disposed in a plane parallel to the image plane of the digital sensor for detecting angular accelerations in order to derive the angular position of the system.

Claim 21 (original):

The camera of claim 1, further including a display device associated with the image sensors for displaying the output therefrom.

Claim 22 (original):

The camera of claim 21, wherein the display device is a viewfinder.

Claim 23 (currently amended):

The camera of [[clam]] claim 22, wherein the camera is housed in a single, handheld, portable unit.

Claim 24 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

the beam-splitting mirror including a surface for dual-path diverting capability, wherein a first portion of the directed beam is diverted in one direction and a second portion of the directed beam is diverted in a second direction;

the surface of the beam-splitting mirror is entirely partially-reflective and entirely partially-transmissive for creating different intensities of the beam;

a first image sensor adapted to receive [[a]] the first portion of the distributed beam;

a second image sensor adapted to receive [[a]] the second portion of the distributed beam; and

a switch adapted to select an output from at least one of the image sensors.

Claim 25 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

the beam-splitting mirror including a surface for dual-path diverting capability, wherein a first portion of the directed beam is diverted in one direction and a second portion of the directed beam is diverted in a second direction;

the surface of the beam-splitting mirror is entirely partially-reflective and entirely partially-transmissive for creating different intensities of the beam;

a first image sensor adapted to receive [[a]] the first portion of the distributed beam;

a second image sensor adapted to receive [[a]] the second portion of the distributed beam; and

an iris adapted to limit an amount of the directed beam received by at least one of the image sensors.

Claim 26 (original):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a color image sensor adapted to receive a portion of the distributed beam;

a monochrome image sensor adapted to receive a portion of the distributed beam;

an iris adapted to limit an amount of the directed beam received by at least one of the sensors; and

an iris driver adapted to limit an output from at least one of the sensors.

Claim 27 (original):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a color image sensor adapted to receive a portion of the distributed beam;

a monochrome image sensor adapted to receive a portion of the distributed beam;

an iris adapted to limit an amount of the directed beam received by at least one of the sensors;

an iris actuator; and

an iris driver adapted to drive the iris actuator and the iris thereby limiting an output from at least one of the sensors if the output crosses a threshold.

Claim 28 (original):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a color image sensor adapted to receive a portion of the distributed beam;

a monochrome image sensor adapted to receive a portion of the distributed beam;

an iris adapted to limit an amount of the directed beam received by at least one of the sensors;

an iris actuator;

a first module adapted to sample an output from at least one of the sensors;

a second module adapted to filter the sampled output;

a third module adapted to provide a time constant to the filtered output;

an iris driver adapted to:

receive the output from the third module; and

drive the iris actuator and the iris thereby limiting the output if the output increases to a certain level.

Claim 29 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

the beam-splitting mirror including a surface for dual-path diverting capability, wherein a first portion of the directed beam is diverted in one direction and a second portion of the directed beam is diverted in a second direction;

the surface of the beam-splitting mirror is entirely partially-reflective and entirely partially-transmissive for creating different intensities of the beam;

a first image sensor adapted to receive [[a]] the first portion of the distributed beam;

a second image sensor adapted to receive [[a]] the second portion of the distributed beam; and

an image intensifier associated with one of the sensors.

Claim 30 (original):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first image sensor adapted to receive a portion of the distributed beam;

a second image sensor adapted to receive a portion of the distributed beam;

an image intensifier, associated with at least one of the sensors, adapted to intensify the portion of the distributed beam before being received by at least one of the sensors; and

at least one relay lens adapted to transfer the intensified portion of the distributed beam to at least one of the sensors.

Claim 31 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

the beam-splitting mirror including a surface for dual-path diverting capability, wherein a first portion of the directed beam is diverted in one direction and a second portion of the directed beam is diverted in a second direction;

the surface of the beam-splitting mirror is entirely partially-reflective and entirely partially-transmissive for creating different intensities of the beam;

a first image sensor adapted to receive [[a]] the first portion of the distributed beam;

a second image sensor adapted to receive [[a]] the second portion of the distributed beam;

an image intensifier, associated with at least one of the image sensors, adapted to intensify the portion of the distributed beam before being received by at least one of the image sensors; and

a fiber optic bundle adapted to transfer the intensified portion of the distributed beam to at least one of the image sensors.

Claim 32 (currently amended):

A camera, comprising:

a single primary lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first image sensor adapted to receive a portion of the distributed beam;

a second image sensor adapted to receive a portion of the distributed beam;

a first iris associated with the single primary lens, whereby said first iris is adapted to limit an amount of the directed beam;

an image intensifier positioned between the beam-splitting mirror and the first image sensor, whereby said image intensifier is adapted to intensify the limited amount of the directed beam; and

a second iris associated with the image intensifier, whereby said second iris is adapted to limit an amount of the intensified directed beam reaching ~~at least one of~~ the first image sensor. ~~sensors.~~

Claim 33 (original):

A camera, comprising:

a single lens system adapted to direct a beam;

a mirror adapted to receive and distribute the directed beam;

a first image sensor adapted to receive a portion of the distributed beam;

a second image sensor adapted to receive a portion of the distributed beam;

a first iris adapted to limit an amount of the directed beam;

an image intensifier adapted to intensify the limited amount of the directed beam;

a second iris adapted to limit an amount of the intensified directed beam reaching at least one of the sensors;

at least one iris actuator;

at least one first module adapted to sample an output from at least one of the sensors;

at least one second module adapted to filter the sampled output;

at least one third module adapted to provide a time constant to the filtered output;

at least one iris driver adapted to:

receive the output from the at least one third module; and

drive the at least one iris actuator and the at least one iris thereby limiting the output if the output increases to a certain level.

Claim 34 (original):

A system, comprising:

a plurality of cameras sharing a single optical path, the cameras each comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a plurality of sensors adapted to receive a portion of the distributed beam; and

a switch adapted to select an output from at least one of the sensors; and

a multiplexer, operably coupled to the cameras, adapted to select at least one of the cameras.

Claim 35 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first digital image sensor adapted to receive a portion of the distributed beam;

a second digital image sensor adapted to receive a portion of the distributed beam; and

a processor adapted to:

control a scanning of the digital image sensors;

receive the scanned portions of the distributed beam; and

produce an output based on the received portions.

Claim 36 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first digital image sensor adapted to receive a portion of the distributed beam;

a second digital image sensor adapted to receive a portion of the distributed beam;

a processor adapted to control a scanning of the digital image sensors, and produce an output based on the scanning;

a pair of orthogonal gyroscopic accelerometers adapted to detect angular accelerations;

the processor further adapted to twice integrate the angular accelerations to derive an instantaneous angular position of the camera; and

the processor further adapted to temporally offset the scanning, thereby stabilizing the output based on the instantaneous angular position.

Claim 37 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first digital image sensor adapted to receive a portion of the distributed beam;

a second digital image sensor adapted to receive a portion of the distributed beam;

a processor adapted to control a scanning of the digital image sensors, and produce an output based on the scanning;

a pair of orthogonal gyroscopic accelerometers adapted to detect angular accelerations;

the processor further adapted to twice integrate the angular accelerations to derive an instantaneous angular position of the camera; and

the processor further adapted to variably offset read addresses driven to the digital image sensors, thereby stabilizing the output based on the instantaneous angular position.

Claim 38 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first digital image sensor adapted to receive a portion of the distributed beam;

a second digital image sensor adapted to receive a portion of the distributed beam; and

a processor adapted to:

control a scanning of the digital image sensors, wherein the scanning can occur in at least one of a following order:

reverse–pixel; and

reverse-line; and

produce an output based on the scanning.

Claim 39 (original):

A camera, comprising:

a single lens system adapted to direct a beam;

a mirror adapted to receive and distribute the directed beam;

a color image sensor, providing chrominance information, adapted to receive a portion of the distributed beam;

a monochrome image sensor, providing luminance information, adapted to receive a portion of the distributed beam;

a non-traditional color filter adapted to filter the chrominance information; and

a processor adapted to:

control a scanning of the image sensors; and

produce an output based on the scanning, wherein a resolution of the output of the color image sensor is increased based on the filter.

Claim 40 (original):

A camera, comprising:

a single lens system adapted to direct a beam;

a mirror adapted to receive and distribute the directed beam;

a color image sensor, providing chrominance information, adapted to receive a portion of the distributed beam;

a monochrome image sensor, providing luminance information, adapted to receive a portion of the distributed beam; and

a processor adapted to perform at least one of a following action:

control a scanning of the chrominance information and the luminance information;

scale the chrominance information and the luminance information; and

merge the chrominance information and the luminance information.

Claim 41 (currently amended):

A camera, comprising:

a single primary lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first image sensor adapted to receive a portion of the distributed beam;

a second image sensor adapted to receive a portion of the distributed beam;

a first iris associated with the single primary lens, whereby said first iris is adapted to limit an amount of the directed beam;

an image intensifier positioned between the beam-splitting mirror and the first image sensor, whereby said image intensifier is adapted to intensify the limited amount of the directed beam; and

a second iris associated with the image intensifier, whereby said second iris is adapted to limit an amount of the intensified directed beam reaching ~~at least one of~~ the first image sensor. ~~sensors.~~

a processor adapted to control a scanning of the image sensors, and produce an output based on the scanning;

a first actuator;

a second actuator;

wherein incident light reaching the first image sensor is controlled by the [[first]] second iris, as driven by the second actuator, under control of the processor, thereby preventing the first ~~imager~~ image sensor from saturation or overload; and

wherein the intensifier is protected by the [[second]] first iris, driven by the [[second]] first actuator, under control of the processor, thereby protecting the intensifier from excessive illumination.

Claim 42 (currently amended):

A camera, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first relay lens comprising a first magnification ratio;

a second relay lens comprising a second magnification ratio;

a first imager adapted to receive a portion of the distributed beam via the first relay lens; and

a second imager adapted to receive a portion of the distributed beam via the second relay lens;

wherein the portions are at least one of a following option:

similar;

dissimilar;

different magnifications; and

similar resolutions.

Claim 43 (currently amended):

A module, comprising:

a single lens system adapted to direct a beam;

a beam-splitting mirror adapted to receive and distribute the directed beam;

a first image sensor adapted to receive a first portion of the distributed beam, whereby the first portion of the distributed beam is a high ambient lighting beam; and

a second image sensor adapted to receive ~~another~~ a second portion of the distributed beam, whereby the second portion of the distributed beam is a low ambient lighting beam.

Claim 44 (original):

A method for stabilizing an image produced by a sensor, comprising:

measuring an angular acceleration in two orthogonal axes parallel to an axis of the sensor;

twice integrating the angular acceleration in the orthogonal axes; and

temporarily offsetting scan timing signals based on the measuring and the integrating.

Claim 45 (original):

A method for stabilizing an image produced by a digital sensor, comprising:

measuring an angular acceleration in two orthogonal axes parallel to an axis of the digital sensor;

twice integrating the angular acceleration in the orthogonal axes; and

generating, based on the measuring and the integrating, an address offset in at least one read address used to access at least one of a following element:

an image array; and

a buffer of the image array.